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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|-------------------------|------------------|
| 09/892,377 | 06/26/2001 | Linda Ann Riedle | RPS9-2001-0024US1/2067P | 2902 |

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SAWYER LAW GROUP
P. O. Box 51418
Palo Alto, CA 94303

[REDACTED] EXAMINER

INOA, MIDYS

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| | 2188 |

DATE MAILED: 09/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|------------------------|---------------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/892,377 | RIEDEL ET AL. <i>M</i> |
| | Examiner | Art Unit |
| | Midys Inoa | 2188 |

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
 THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 28 July 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-27 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-27 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 02 October 2001 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1 . | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Claims 1-27 in Paper No. 5 is acknowledged.
2. Claims 28-33 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.
Election was made **without** traverse in Paper No. 5.

Information Disclosure Statement

3. The information disclosure statement filed on June 26th, 2001 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. Although it has been placed in the application file, document number JP 5257611 has not been considered. The Examiner has considered all other documents submitted in the English language.

Drawings

4. The drawings filed on October 2nd, 2001 have been approved by the examiner.

Claim Objections

5. Claim 7 is objected to because of the following informalities:

The phrase "further comprising" should be "further comprises".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-8, 10-17, and 19-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka et al. (5,542,064).

Regarding Claims 1, 3, 5, 11, 13, 15, 20 and 22, Tanaka et al. teaches a data storage system with a plurality of storage devices (disk drives 16-1 to 16-n, Figure 1) in which CPU 1 is the main module of which controller 2 is a child, controller 2 is a module of which the plurality of disk processors 17-1 to 17-n are children, and the plurality of disk processors are independent modules each having a disk drive 16-1 to 16-n as a child (Figure 1). Tanaka discloses controller 2 receiving input and output command from CPU 1 and passing such commands from the controller 2 to the corresponding drive processor 17-1 to 17-n and then to the corresponding disk drive (“deciding which child to pass the input command to... passing the input command to the decided child”, Column 3, line 50 to Column 4, line 35). In this system, the source is transparent to the drive processor module in that this module does not communicate with the CPU, but instead communicated directly with a module above it, controller 2.

Regarding Claims 2, 12, and 21, in Tanaka et al.’s storage system, CPU 1 can be considered as the main module.

Regarding Claims 4, 14, and 23, in Tanaka et al.’s storage system, CPU 1; which acts as a client computer to the storage system comprised of controller 2, the plurality of drive processors, and the plurality of disk drives; is the source of the input commands being sent from module to module, finally reaching a disk drive child (see Figure 1).

Regarding Claims 6-7, 16-17, and 25, Tanaka et al. teaches drive processors to control access to the disk drives and to control the processing of commands by the disk drives. Once the input command reaches the corresponding drive processor, the command is processed and executed by the disk drive in a way common to most groups of disk drives and controllers (wherein a group is composed of a disk drive and a corresponding controller, Column 4, lines 25-33).

Regarding Claims 8 and 24, Tanaka et al. teaches that an input command is received by the first module, controller 2, and passed on until it reaches the final child, which is the corresponding disk drive. It is understood that a disk drive is a physical storage device (Column 3, line 50 – Column 4, line 35, Figure 1).

Regarding Claims 10 and 19, Tanaka et al. teaches controller 2 sending an answer to the CPU 1 by means of the Microprocessor 11-1 indicating that the command that it has sent is not acceptable (“status message”). This message is being sent from the controller 2, which is a child of the CPU 1 (“module parent... host”, Column 4, lines 1-3).

Regarding Claim 26, Tanaka et al. teaches a plurality of drive processors (“control chips”), which enable the access of data from the disk drives, coupled to controller 2 and to a corresponding disk drive (“storage device”). The drive processors aid in the processing of input commands in the disk drive and control the access to the disk drive (Column 4, lines 25-34).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 9, 18 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (5,542,064). Tanaka et al. teaches the invention as set forth by claims 1-8 above. Tanaka et al. does not teach building commands using a small computer system interface (SCSI). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the commands of Tanaka's invention SCSI commands since such upgrade would allow for the connection of peripheral devices (such as modules) while taking up a minimal amount of connection slots (for further information refer to the definition of "small computer systems interface" in The Authoritative Dictionary of IEEE Standards Terms).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Sakakura et al. (5,761,526), Apparatus for Forming Logical Disk Management Data Having Disk Data Stripe Width Set in Order to Equalize Response Time Based on Performance".

This reference teaches the structure and relationship of module and child. In Figure 1, such relationship is clearly noticeable in SCSI bus adapter 109, disk controller 110 and disk 111.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Midys Inoa whose telephone number is (703) 305-7850. The examiner can normally be reached on M-F 7:00am - 4:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (703) 306-2903. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Midys Inoa
Midys Inoa
Examiner
Art Unit 2188

MI

Mano Padmanabhan
8/28/03
Mano PADMANABHAN
SUPERVISORY PATENT EXAMINER
TC 2100